ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 1 of 14

BEFORE

THE PUBLIC SERVICE COMMISSION OF

SOUTH CAROLINA

DOCKET NO. 2018-319-E

In re: Application of Duke Energy Carolinas, LLC for Adjustments in Electric Rate Schedules and Tariffs and Request for an Accounting Order	**SIERRA CLUB POST-HEARING BRIEF**

PURSUANT TO South Carolina Public Service Commission ("Commission") Rule 103-851, intervenor Sierra Club, through counsel, files this brief on certain issues in the current rate case proceeding of Duke Energy Carolinas, LLC ("DEC" or "Company").

I. <u>INTRODUCTION</u>

For decades, the Company and its sister utility Duke Energy Progress ("DEP") have stored coal ash in unsafe, unlined, leaking ponds across the Carolinas. This practice caused the third largest release of coal ash into the environment in the history of the Unites States and led to admissions of criminal negligence by the Company and DEP. The leaking ponds have polluted lakes and rivers and contaminated groundwater. Now, the Company seeks to saddle South Carolina ratepayers with a significant portion of the multi-billion-dollar bill for the cleanup of its coal ash mess. Specifically, DEC has requested $62 million for costs incurred between January 1, 2015 and December 31, 2018 and estimates that total cleanup costs will reach $2.7 billion. This requested recovery is not reasonable given the Company's disastrous track record on coal ash disposal, including violations of federal and state law and ongoing contamination of water resources.

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 2 of 14

In addition, the requested recovery is unreasonable because the Company has failed to give serious consideration to the retirement of its aging coal-fired units. On top of the coal ash basin closure costs, the Company plans to invest hundreds of millions of dollars at its coal plants in order to allow them to continue operating (and to continue generating coal ash). Absent an analysis that compares the economic prudence of continuing to invest ratepayer dollars in fifty-year old coal plants to replacing those plants with other demand- and supply-side resources, neither the Company nor the Commission can evaluate the reasonableness of additional investments at coal plants.

In sum, the Company has not demonstrated that closure costs would be the same had it managed coal ash responsibly over the years or that its decision to continue the operation of its ageing coal fleet is in the best interest of ratepayers. Therefore, the Company has failed to meet its burden of showing that its requested recovery is just and reasonable. Accordingly, Sierra Club urges the Commission to reject the Company's request for recovery of coal ash-related costs.

II. LEGAL STANDARD

South Carolina law provides that all rates by electrical utilities "shall be just and reasonable." S.C. Code § 58-27-810 ("Every rate made, demanded or received by any electrical utility or by any two or more electrical utilities jointly shall be just and reasonable."). The Commission has the authority to "ascertain and fix the value of the whole or any part" a utility's rate base. S.C. Code § 58-27-180; *see also id.* § 58-3-140.

When the Commission considers the evidence presented during a general rate case, "the burden of proof of the reasonableness of all costs incurred which enter into a rate increase request rests with the utility." *Hamm v. S.C. Pub. Serv. Comm'n*, 309 S.C.

282, 286, 422 S.E.2d 110, 112 (1992). While a utility is entitled to an initial presumption of reasonableness, once an intervening party or the Commission itself demonstrates a "tenable basis for raising the specter of imprudence," *id.*, the utility then bears the burden to "further substantiate its claim[s]." *Utils. Servs. of S.C., Inc. v. S.C. Office of Regulatory Staff*, 392 S.C. 96, 109–10, 708 S.E.2d 755, 762–63 (2011) (noting that "the presumption in a utility's favor clearly does not foreclose scrutiny and a challenge"). Thus, the ultimate burden of proof of reasonableness rests on the utility. *Hamm*, 309 S.C. at 286–87, 422 S.E.2d at 112–13.

III. ARGUMENT

A. The Company has not established that its requested rate recovery of coal ash pond closure costs is just and reasonable.

The Company has failed to meet its burden of demonstrating that its proposed rates are just and reasonable. The record does not include any evidence showing that the storage of coal ash in unlined, leaking ponds for decades was a reasonable and prudent way to manage that wastestream. On the contrary, evidence of the Company's violation of law, negligence, and failure to adapt to evolving industry standards with respect to the management of coal ash has been presented by intervenors. And despite the imprudence identified, the Company has not even attempted to show that its cleanup costs would be the same irrespective of how it managed coal ash for the last few decades. Because the Company has failed to meet its burden of proof regarding the reasonableness of its requested rate recovery, that request should be denied.

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 3 of 14

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 4 of 14

1. The Company operated leaking coal ash ponds in violation of state and federal law.

On February 2, 2014, a decades-old pipe ruptured underneath a coal ash pond at the Company's retired Dan River Steam Station in Eden, North Carolina, releasing more than 30,000 tons of coal ash and 27 million gallons of contaminated water into the adjacent Dan River and polluting more than 60 miles of the river. Hr'g Ex. 33, DJW-5.2 (Joint Factual Statement), ¶¶ 1, 31, 87, 88. Following this avoidable and man-made disaster, a federal criminal investigation into the management of coal ash at Duke Energy's facilities concluded with guilty pleas and admissions of criminal negligence by the Company, and fines totaling $53.6 million. Hr'g Ex. 33, DJW-5.1 (Memorandum of Plea Agreement), at 3.[1]

Far from being an anomaly in an otherwise unblemished record of compliance with environmental laws, the investigation revealed that the Dan River spill was the foreseeable result of a pattern of mismanagement of Duke Energy's coal ash basins. As part of the criminal plea agreement, the Company admitted that the spill had resulted from its failure to properly maintain and inspect a pipe beneath the ash pond despite repeated warnings of the need to do so. Hr'g Ex. 33, DJW-5.2, ¶¶ 57–59, 70–80.

Duke Energy's pattern of mismanagement at coal ash facilities also led to the contamination of surface waters and groundwater and the repeated violation of environmental laws. Duke admitted that it "allowed unauthorized discharges of pollutants from coal ash basins via 'seeps'" at its coal ash sites. *Id.* ¶¶ 3, 133, 134. Unauthorized seepage at the Company's Riverbend plant allowed for the discharge of arsenic,

[1] While the Company has not sought recovery of the fines themselves, it *is* seeking recovery from ratepayers of costs associated with the closure of ash basins at the Dan River site and other sites where unlawful seeps and exceedances of groundwater standards have been found. Hr'g Tr., Vol. 4, at 683:1–3; Hr'g Ex. 29, Kerin Ex. 10.

chromium, cobalt, boron, barium, nickel, strontium, sulfate, iron, manganese, and zinc into the Catawba River. *Id.* ¶¶ 153–155. In its plea agreement, the Company admitted that, in discharging coal ash pollution through seeps at the Riverbend plant, it "acted negligently." Hr'g Ex. 33, DJW-5.1, at 48–49. Duke also admitted that "[m]onitoring of groundwater at coal ash basins owned by [DEC and DEP] has shown exceedances of groundwater water quality standards for pollutants under and near the basins including arsenic, boron, cadmium, chromium, iron, manganese, nickel, nitrate, selenium, sulfate, thallium, and total dissolved solids." Hr'g Ex. 33, DJW-5.2, ¶ 138.

In addition to the violations documented in the federal criminal plea agreement, the North Carolina Department of Environmental Quality ("NCDEQ") brought civil enforcement actions against Duke Energy, alleging that seeps at numerous coal ash sites violated National Pollutant Discharge Elimination System ("NPDES") permits. Hr'g Ex. 33, DJW-5.3.1, ¶¶ 1–2. NCDEQ also alleged that sampling revealed numerous exceedances of North Carolina groundwater standards in violation of state law. *Id.*; 15A N.C. Admin. Code 2L.0101–.0202 ("2L Groundwater Rules").

Witness Jon Kerin acknowledged the Company's obligation to comply with the 2L Groundwater Rules, Hr'g Tr., Vol. 6, at 1250:14–23, but was unable to answer questions about the results of groundwater monitoring conducted pursuant to those rules, *id.* at 1251:3–5 ("I don't have those results with me today."); 1251:10–11 ("I don't have the results of that monitoring."), and was unable to point to another Company witness who would have answers, *id.* at 1251:14–19 (Q: "Who at the Company would have those results? / A: "It'd be our environmental organization." / Q: "So none of the witnesses that are here today or throughout this hearing?" / A: "I don't believe so.").

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 5 of 14

Unsurprisingly, given the NCDEQ enforcement action documenting exceedances of the 2L Groundwater standards, Witness Kerin eventually did concede: "There may have been exceedances." Hr'g Tr., Vol. 6, at 1251:13. Exceedances of those standards at or beyond the compliance boundaries at the Company's coal ash sites are prohibited by the 2L Groundwater Rules. 15A N.C. Admin. Code 2L.0103(d) ("No person shall conduct or cause to be conducted, any activity which causes the concentration of any substance to exceed that specified in Rule .0202 of this Subchapter.").

Despite his concession, Witness Kerin repeatedly offered the unsupported conclusion that the Company's ash handling practices were "consistent with the applicable regulatory requirements that were in effect." Kerin Dir. at 22:21–23; *see also id.* at 6:22–23, 9: 15–17; 21:9–12. These statements ignore the fact that the operation of coal ash ponds with unpermitted seeps violates the Clean Water Act, Section 143-215.1 of North Carolina's General Statute, and the terms of the Company's NPDES permits, and that the operation of coal ash ponds that results in the exceedance of the 2L Groundwater standards violates state law, 15A N.C. Admin. Code 2L.0103(d). The Company's resolution of some of the claims brought against it through settlement or consent agreements does not erase its underlying illegal and unreasonable behavior.

Operation of coal ash ponds in violation of applicable law and regulations simply cannot be considered reasonable. Certainly, operation of a system meant to treat wastewater in a manner that allows the release of untreated wastewater cannot be considered prudent. Likewise, the costs of abating such violations cannot be considered prudently incurred. Therefore, it is not appropriate for ratepayers to relieve the Company and its shareholders of the responsibility for coal ash cleanup costs.

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 6 of 14

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 7 of 14

2. *The Company knew or should have known of the risks posed by its coal ash ponds.*

Duke Energy and/or its predecessors were (or should have been) aware of the risks posed by storage of coal ash in unlined ponds located beneath the groundwater table since at least the 1980s. While Witness Kerin repeatedly offered his opinion that the Company's handling of coal ash was "reasonable, prudent, and consistent with industry standards over time," Kerin Dir. at 35:14–15, that opinion is wholly unsupported by the evidence in the record.

In 1979, the U.S. Department of Energy's Los Alamos Laboratory released a report detailing the environmental impacts from coal waste and current disposal practices. Hr'g Ex. 33, DJW-4.8. The report warned that "control of contaminated leachates and seepages from disposal ponds for fly ash and scrubber sludge represents, perhaps, the most significant environmental problem facing . . . utilities" and that there was a "growing awareness that the discarded wastes from coal combustion are a serious potential source of surface and groundwater contamination." *Id.* at 6–7.

As Witness Kevin O'Donnell testified, the Electric Power Research Institute ("EPRI"), an industry collaborative of which Duke Energy is a member, released coal ash disposal manuals in 1981 and 1982 putting utilities on notice of the groundwater contamination risks posed by ash disposal sites. O'Donnell Dir. at 43:14–24. In 2004, EPRI released a third manual, warning of the serious risks posed by improper coal ash disposal. *Id.* And in 1988, the United States Environmental Protection Agency ("EPA") submitted a report to Congress regarding coal ash that echoed the concerns raised by EPRI: the "primary concern regarding the disposal of wastes from coal-fired power plants is the potential for waste leachate to cause groundwater contamination." Hr'g Ex. 33, DJW-4.6 at ES-3.

Given this collection of reports, Duke Energy and other utilities were on notice of the groundwater contamination risks posed by unlined coal ash ponds and of the importance of converting to dry handling of coal ash as soon as possible. Nevertheless, the Company continued to dump millions of tons of coal ash in unlined ponds located below the groundwater table, adjacent to lakes and rivers, and within floodplains for decades. Such disposal presented an unreasonable risk to the environment and surrounding communities, yet the Company failed to take any action to mitigate such risks until forced by regulators to do so.

In light of this blatant disregard for known risks and refusal to dispose of coal ash in a safe and reasonable manner, the Company's request for recovery of its coal ash cleanup costs should be denied.

3. The Company's failure to prudently handle coal ash will result in higher basin closure costs.

Had the Company adhered to evolving industry standards by switching to dry handling of its coal ash and ending its practice of dumping ash in unlined ponds at any time prior to when it began closing those ponds, closure costs today would be significantly lower. For this reason, the cost recovery sought in this proceeding is not just and reasonable.

The Company is excavating the coal ash basins at its Buck, Dan River, and W.S. Lee sites and plans to close the basins at its Allen, Belews Creek, Cliffside, and Marshall sites by leaving the ash sitting in the existing unlined ponds and installing caps on top of the ash—a closure method known as "cap in place." Hr'g Ex. 29, Kerin Ex. 9. The

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 8 of 14

Company's $2.7 billion estimate for total basin closure costs is based on the assumption that numerous basins will be capped in place. Hr'g Tr., Vol. 6, at 1261:7–14. If NCDEQ requires the Company to excavate ash at all sites, closure costs would be much greater.[2] Hr'g Tr., Vol. 4, at 682:8–12; Vol. 6, at 1261:21–25.

However, whether or not NCDEQ requires additional excavation, an earlier conversion to dry ash handling would have resulted in reduced closure costs. Indeed, Witness Kerin agreed that if the Company had switched to dry ash handling sooner, fewer tons of coal ash would be sitting in wet ponds today, and excavation costs would be reduced, *id.* at 1262:10–15, because the cost of excavating is "based on tonnage and transportation of tonnage. So it would be tied to tons in the basin," *id.* at 1263:6–10.

Furthermore, the Company has offered no evidence regarding whether different management practices could have resulted in fewer costs. On this point, Witness Kerin asserted that the Company's "historical handling of [coal ash] was reasonable, prudent, and consistent with industry standards over time" and that "*[t]hese facts* are important to show that nothing that DE Carolinas has done historically is causing the Company to incur any unjustified costs today to comply with coal ash regulatory requirements." Kerin Dir. at 37:14–17 (emphasis added). However, Witness Kerin pointed to no specific "facts" in support of his conclusion. This is not surprising, since there is no dispute that

[2] On April 1, 2019, after the close of the hearing in this proceeding, NCDEQ issued orders requiring excavation of coal ash at the Duke Energy sites that had been slated for cap in place closure. NCDEQ, Press Release, "DEQ Orders Duke Energy to Excavate Coal Ash at Six Remaining Sites" (Apr. 1, 2019), *available at* https://deq.nc.gov/news/press-releases/2019/04/01/deq-orders-duke-energy-excavate-coal-ash-six-remaining-sites. Duke Energy responded with a public statement that excavation would add approximately $4 to $5 billion to the current $5.6 billion ash basin closure estimate. Duke Energy, Press Release, "Duke Energy responds to latest milestone in the safe basin closure process" (Apr. 1, 2019), *available at* https://news.duke-energy.com/releases/duke-energy-responds-to-latest-milestone-in-the-safe-basin-closure-process.

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 9 of 14

the Company's unsafe coal ash storage practices led to the violation of state and federal law and admissions of criminal negligence.

The Company knew that storing millions of tons of toxic waste behind earthen dams, in unlined ponds, in direct contact with groundwater was risky. Nevertheless, it continued to operate such ponds for decades—even once it had stopped building new unlined ponds—and did not alter its course until after the Dan River spill. Accordingly, the Company cannot establish that the costs incurred to clean up its leaking ponds are reasonable or that shifting all of those costs from the Company and its shareholders to South Carolina ratepayers is just.

B. The requested rate recovery of coal ash pond closure costs is not just or reasonable because the Company has not demonstrated that the continued operation of its coal units is the most prudent option for ratepayers.

Of the coal ash basin closure costs for which the Company has sought recovery, a significant portion represents costs incurred at coal-fired power plants that are likely to be uneconomic for customers (if they are not uneconomic already). *See* Hausman Dir. at 3:21–23; 6:12–18. The Company has incurred basin closure costs as well as significant capital investments at its coal plants—including $411 million to retrofit coal ash handling systems, *id.* at 7:1–18—without first analyzing whether those costs could be mitigated or avoided if the uneconomic coal units were replaced with non-fossil alternatives for meeting customer requirements. *See* Hausman Surreb. at 2:8–20. Only once the costs, benefits, and customer risks associated with continued operation of the plants versus all viable alternatives are fully evaluated, can the reasonableness and prudence of any additional capital investments be assessed. Thus, in order to ensure that rates are just and

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 10 of 14

reasonable, the Commission should require the Company to conduct retirement analyses for its coal units before it makes any additional investments.

As Sierra Club Witness Hausman explained, the Company's Allen Steam Station, Cliffside Unit 5, and Marshall Units 1 and 2 have been operating at much lower capacity factors in recent years than in years past. Hausman Dir. at 18:8–14. In response to questions from Commissioner Whitfield, Company Witness Steve Immel testified that he agreed with Dr. Hausman's observations regarding capacity factors. Hr'g Tr., Vol. 5, at 940:19–25, 941:1. This trend of decreasing capacity factors "reflects [coal units'] increased difficulty competing with other generation sources, and represents another reason why their long-term economic outlook is relatively poor." Hausman Dir. at 18:14–16. Given this trend, it would be prudent for the Company to calculate the total capital investment needed to comply with regulatory requirements and analyze whether, considering such investment, continuing to run its coal units is more or less cost-effective than replacing the units with alternative resources. The Company has not undertaken such analysis. Instead, it has simply considered and rejected the replacement of a coal plant with a new combined cycle gas-fired power plant.

Witness Immel criticized Dr. Hausman's retirement analysis recommendation, pointing to the Company's annual Integrate Resource Planning ("IRP") proceeding as the appropriate place to address the prudence of continued investment in coal plants. Immel Rebuttal at 2–3. However, as Dr. Hausman noted, the Company's last IRP does not include any retirement analyses; instead, the retirement dates identified in the depreciation study are hardwired as inputs to the Company's IRP modelling. Hausman Surreb. at 6:8–10. In response to questions about the Company's hardwiring of retirement

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 11 of 14

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 12 of 14

dates, Witness Immel confirmed that "the depreciation study is . . . somewhat of an input into the integrated resource planning process." Hr'g Tr., Vol. 5, at 921:10–17. If the Company does not evaluate the economics of its coal units as part of its resource planning or as part of its general rate cases, when can ratepayers expect that evaluation to take place?

Without an analysis that considers the total costs associated with closure of the ash basins and compliance with regulatory requirements pertaining to coal ash and that compares continued operation of coal plants to early retirement, the Commission cannot properly assess the reasonableness of the Company's continued investment at its coal plants. Therefore, a comprehensive retirement analysis should be conducted for Allen, Cliffside, and Marshall before the Company expends any additional resources to retrofit the plants for continued operation and coal ash generation.

IV. PROPOSED FINDINGS AND CONCLUSIONS

In light of the foregoing, Sierra Club asks the Commission to make the following findings and conclusions:

1. The Company has stored coal ash in unlined ponds for decades despite knowledge that such practice presented a risk to the environment.

2. The Company's coal ash ponds leak and discharge coal ash contaminants into surface waters through unpermitted seeps. Coal ash contaminants from the Company's ponds also leach into the groundwater.

3. The Company pled guilty to criminally negligent violations of the Clean Water Act arising from its mismanagement of its coal ash ponds and has been the subject of enforcement actions by NCDEQ for violations of North Carolina law.

ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 13 of 14

4. The Company's operation of unlined coal ash ponds over the past several decades was unreasonable.

5. The Company failed to meet its burden of showing that its coal ash pond closure costs would not have been smaller if it had acted reasonably in the past.

6. Therefore, the Company has not established that the requested rate recovery for coal ash pond closure costs is just and reasonable, and said recovery is denied.

7. Coal-fired units at the Company's Allen (units 1–5), Cliffside (unit 5), and Marshall (units 1 and 2) plants have been operating at decreased capacity factors.

8. The Company failed to analyze whether it is more economically prudent to continue investing ratepayer dollars in fifty-year old coal plants or to replace those plants with other demand- and supply-side resources.

9. Therefore, the Company has not established that its requested rate recovery for expenditures at coal plants is just and reasonable, and said recovery is denied.

V. <u>CONCLUSION</u>

The Company' decades of coal ash pond mismanagement were not reasonable and prudent. That mismanagement led to the coal ash landscape we have today: ponds across the Carolinas that unlawfully discharge pollutants into surface waters and groundwater and that must all be closed in order to put an end to those discharges. Had the Company taken steps to safely dispose of the byproducts of its coal burning at some earlier point—instead of leaving millions of tons of toxic waste saturated in groundwater—pond closure costs likely would be smaller today. Likewise, if the

Company had retired some or all of its coal units earlier, fewer tons of coal ash would have been generated and closure costs would be smaller still.

The Company has simply not met its burden to show that its request is reasonable and just. Accordingly, and for the reasons set forth above, Sierra Club respectfully requests that the Commission deny the Company's request for recovery of its coal ash pond closure costs from ratepayers. To the extent the Commission concludes that some level of ratepayer responsibility for coal ash-related costs is appropriate, we urge the Commission to require the Company to conduct a comprehensive retirement analysis of its coal plants before making any further capital investments.

Respectfully submitted this 18th day of April, 2019.

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ELECTRONICALLY FILED - 2019 April 18 4:20 PM - SCPSC - Docket # 2018-319-E - Page 14 of 14